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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/722,520

11/28/2003

Takashi Noguchi

2003-1693A

7575

513

7590

12/29/2004

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EXAMINER

HUYNH, ANDY

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/722,520

Applicant(s)

NOGUCHI, TAKASHI

Examiner

Andy Huynh

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-14 is/are allowed.
- 6) ☒ Claim(s) 1 and 15 is/are rejected.
- 7) ☒ Claim(s) 2-4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/28/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims **1-15** are currently pending in the application is acknowledged.

Priority

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in JAPAN on 11/28/2002. It is noted, however, that applicant has not filed a certified copy of the 345641/2002 application as required by 35 U.S.C. 119(b).

Information Disclosure Statement

This office acknowledges receipt of the following items from the applicant: Information Disclosure Statement (IDS) filed on 11/28/2003 and made of record as Paper No. 112803. The references cited on the PTOL 1449 form have been considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2818

Claims **1 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakoda et al. (USP 6,670,221 hereinafter referred to as “Sakada”) in view of Yamanaka (USP 5,436,492).

Sakoda discloses in Fig. 1 and the corresponding texts as set forth in column 1, line 44-column 2, line 16, a semiconductor device/a fingerprint sensor apparatus 1 comprises:

a semiconductor chip 3 having a main surface provided with an integrated circuit including a photoelectric converter/sensor 2;

a first wiring 10 for electrically connecting the integrated circuit of the semiconductor chip to respective external terminals 7;

a sealing resin 11 for sealing the main surface of the semiconductor chip and the first wiring, formed so as to have an opening over the surface of the integrated circuit.

Sakoda does not teach a semiconductor device/a fingerprint sensor apparatus comprises a light-transmitting cap for covering the opening of the sealing resin.

Yamanaka teaches in Fig. 1 the CCD image sensor 1 comprises the cover 4 made of glass of high light transmittance (col. 1, lines 33-35).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to form the cover made of glass of high light transmittance, as taught by Yamanaka to incorporate into Sakoda’s structure to arrive the claimed limitation in order to allow light pass through the glass cover and reaches the CCD chip (col. 1, lines 48-49).

Allowable Subject Matter

Claim **2-4** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, since the prior art made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Sakoda and Yamanaka, taken alone or in combination, fail to teach the claimed invention a semiconductor device further comprises a plurality of electrodes columnar in shape, formed in the vicinity of the periphery of the integrated circuit, and provided with a step at the top surface thereof, serving as the first wiring, wherein the light-transmitting cap is engaged with the step at the respective top surface of the electrodes while covering the opening in the sealing resin as recited in claim **2**; wherein the light-transmitting cap is provided with a second wiring for connecting the first wiring to the respective external terminals as recited in claim **3**; wherein a protection film having an opening is provided over the main surface of the semiconductor chip and wherein the opening is positioned over the main surface of the semiconductor chip as recited in claim **4**;

Claims **5-14** are allowed. The following is a statement of reason for the indication of allowable subject matter:

Claims **5-14** are considered allowable since the prior art of record fails to teach or render obvious a semiconductor device comprises, in combination with all other features, a sealing resin which seals sides of the bump electrodes, and a light-transmitting cap which is provided on the top surfaces of the bump electrodes so as to cover a center of the semiconductor chip as recited in independent claims **5 and 10**.

Conclusion

A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to become abandoned (see M.P.E.P 710.02(b)).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy Huynh, (571) 272-1781. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The Fax number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the -status of this application or proceeding should be directed to the receptionist whose phone number is (703) 308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ah

Andy Huynh

12/27/04

Patent Examiner